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BENJAMIN, A.		
BERMAN, H.S.		
CARNIVAL, G.J.		
COPP, R.D.		
CORDOVA, R.C.		
DAVIS, J.G.		
FERRERA, D.W.		
HANNI, B.J.		
HEALY, T.J.		
HILBIG, J.G.		
IDEKER, E.H.		
KERSH, J.M.	X	X
KIRBY, W.A.		
KUESTER, A.W.		
LEE, E.M.		
MANN, H.P.		
MARX, G.E.		
MCKENNA, F.G.		
MONTROSE, J.K.		
MORGAN, R.V.		
PIZZUTO, V.M.		
POTTER, G.L.		
RILEY, J.H.		
SANDLIN, N.B.		
SATTERWHITE, D.G.		
SCHUBERT, A.L.		
SHEPLER, R.L.		
SULLIVAN, M.T.		
SWANSON, E.R.		
WHITE, B.L.		
WILKINSON, R.B.		
WILSON, J.M.		
ZANE, J.O.		

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ROCKY FLATS PLANT
CORRESPONDENCE CONTROL

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Section D Categorical Exclusion (RFO/CX025-91) Determination

C. M. Borgstrom, Director Office of NEPA Oversight, EH-25, HQ

A copy of RFO/CX025-91, Field Activities for Geological and Ecological Characterization Within Floodplains or Wetlands, is attached for your review. This categorical exclusion (CX) was originally submitted for approval to the Office of Environmental Restoration and Waste Management in October of 1991. We have been awaiting the approval and publication of the Floodplain/Wetlands Notice of Involvement and Statement of Findings required by regulations at 10 CFR 1022 since that time. Both of those documents have now been published in the *Federal Register*, and the Wetlands Assessment has been delegated from EM to the field in this interim time, we are now resubmitting the CX which has been approved by the Rocky Flats Office Manager.

Robert M. Nelson, Jr.
Manager

Attachment

cc w/Attachment:
R. S. Scott, EM-20
A. Rampertaap, EM-453
S. Nesta, EG&G
W. A. Moore, EG&G

SECTION D DETERMINATION
CATEGORICAL EXCLUSION (CX) DETERMINATION RFO/CX025-91

Proposed Action: Field Activities for Geologic and Ecological Characterization Within Floodplains or Wetlands

Location: Rocky Flats Plant, Golden, CO

Proposed by: U.S. Department of Energy, Rocky Flats Office

Description of the Proposed Action:

Rocky Flats Plant proposes to carry out field activities to gather data to characterize the geology and ecology of the plant site within wetlands and floodplains in support of the remediation of RCRA and CERCLA sites. This work may be performed both within and outside the boundaries of operable units 1, 2, 5 and 6. The characterization work would include 1) establishing new surface water and sediment sampling stations and collecting samples, 2) collecting soil and soil gas samples, and 3) drilling new water wells and collecting groundwater samples, and 4) drilling to obtain geologic cores.

To establish new surface water and sediment sampling stations, stakes would be driven into the ground at the edge of a stream or water body. The stakes would be used as reference points so that samples can be taken from the same locations periodically. Water and sediment samples would be taken by driving or walking to the sample site and collecting up to a few pounds of sediment or a few quarts of water.

Soil and soil gas samples may be collected within floodplains from grids 38, 51, 52, 57, 81, 96, 109 and 115 shown on Figure 2 using three different methods. The first soil sampling method uses a Colorado Department of Health sampler to remove two to three tablespoons of soil from the ground surface anywhere within the grid. The second soil sampling method that would be used is backhoe excavation of soil pits nine feet long, five feet wide and four feet deep to gather samples from the soil profile within each grid. The sample pits will be refilled with the excavated earth after sampling. Sampling soil gas (Figures 3 and 8) is to be accomplished by using a hand auger to drill a one inch diameter hole 18 to 24 inches deep. A probe is inserted into the hole to sample any gases that escape from the soil.

Drilling new water wells and core holes would involve driving a truck mounted drilling rig to the locations shown on Figures 1, 3, 6, 7, 8, 9, 10, 11, 13 and 14 to drill holes four to six inches in diameter. Drilling activities that may be within the 100 year floodplain or wetlands are highlighted by heavy arrows on the figures. As a general principle, drilling in wetlands would be avoided because of the added difficulties of setting up a drill rig and drilling in saturated soils, but it may be necessary to locate one or more holes within a wetland. As holes are drilled, drill cuttings would be brought to the surface and shoveled into drums for analysis of contaminants and appropriate disposal. Drilling activity will result in the trampling of vegetation for up to 200 square feet around the drill hole.

These activities would not introduce or cause the inadvertent or uncontrolled movement of hazardous substances or non-native organisms, or adversely affect environmentally sensitive areas listed in the guidelines. Because of the nature of the proposed activities, no adverse impacts are expected to wetlands or floodplains.

Categorical Exclusion to be applied:

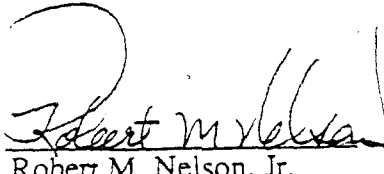
B3.1 Site characterization and environmental monitoring, including siting, construction, operation, dismantlement or closing (abandonment) of characterization and monitoring devices and siting.

construction, and operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, and radar), geochemical, and engineering surveys and mapping, including the establishment of survey marks; (b) Installation and operation of field instruments, such as streamgauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools; (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants; (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities, including assessment of potential wind energy resources; (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7. (10 CFR 1021, Appendix B to Subpart D)

DOE NEPA REGULATIONS SECTION D
CATEGORICAL EXCLUSION DETERMINATION - RFO/CX025-91
Field Activities for Geologic and Ecological Characterization Within Floodplains or Wetlands

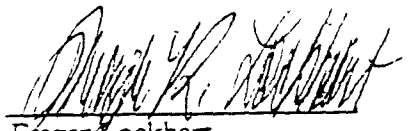
I have determined that the proposed action meets the requirements for a categorical exclusion as defined in the Section D of 10 CFR 1021. Therefore, I approve the categorical exclusion of the proposed action from further NEPA review and documentation.

Date: 10/20/92

Signature: 
Robert M. Nelson, Jr.
Title: Manager, Rocky Flats Office

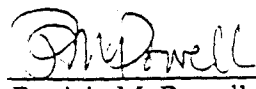
Project Sponsor:

Date: 10/14/92

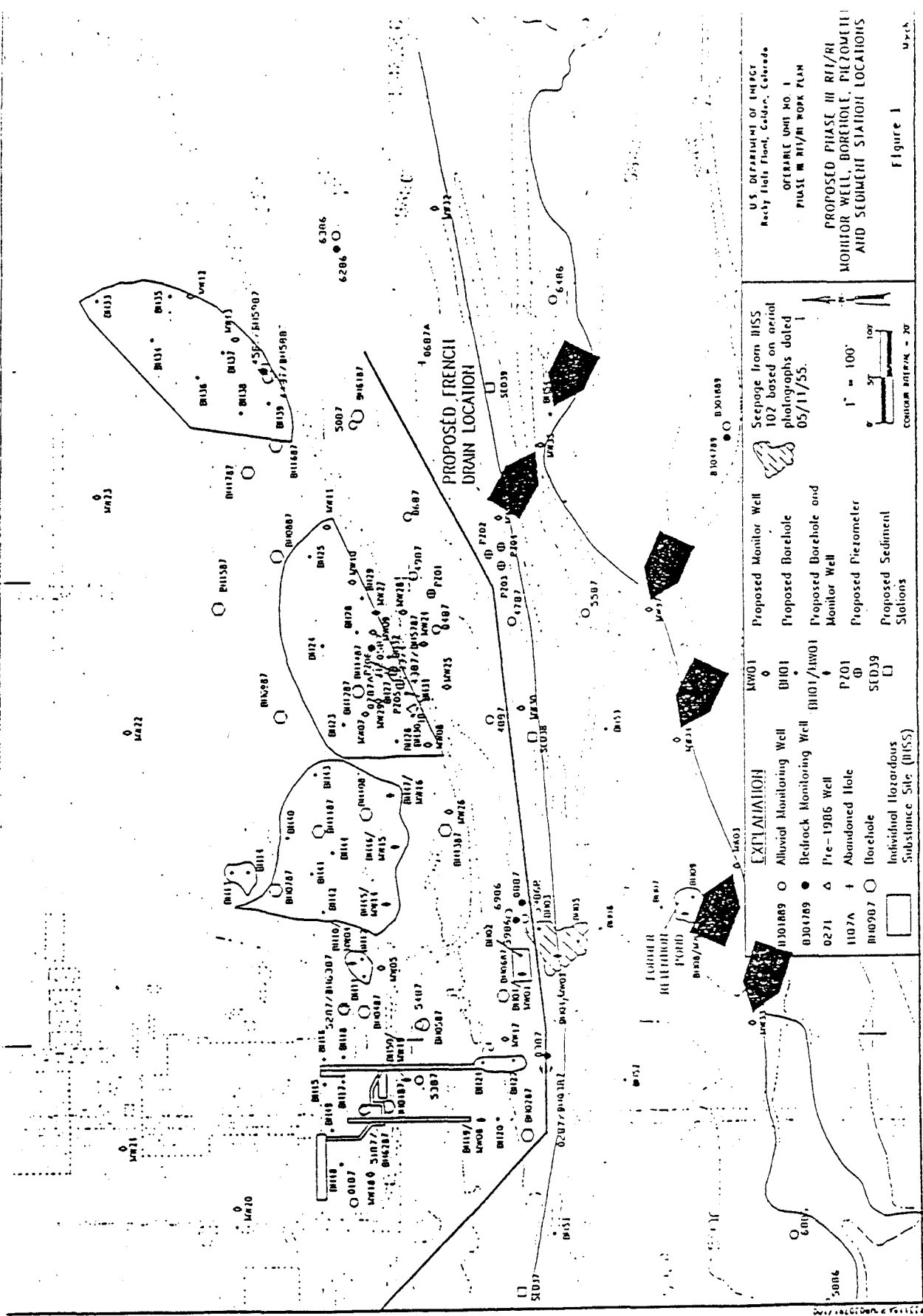
Signature: 
Frazer Lockhart
Title: Director, Environmental Restoration Division

I have reviewed this determination and find that a categorical exclusion is the appropriate level of NEPA documentation.

Date: October 6, 1992

Signature: 
Patricia M. Powell
Title: NEPA Compliance Officer

ADS number: 1001, 1002, 1005, 1016 (EM)



U.S. DEPARTMENT OF IMPACT
Realty Field Flood, Golden, Colorado
OFFICIAL UNIT NO. 1
PHASE III RI/RI WORK PLAN
PROPOSED PHASE III RI/RI
MONITOR WELL, BOREHOLE, PIEZOMETER
AND SEDIMENT STATION LOCATIONS

Figure 1
Work

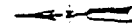
EXPLANATION

- ESTIMATED WATERSHED LIMITS OF
BRUSH, 2003 CENSUS AND
400/2 ACTIVITY BY CEN FORTY
- 10 ACRE SURVEY PLOT LOCATIONS
- 10 ACRE SURVEY PLOT LOCATIONS
NORTH AND SOUTH OF OLYMPIA UNIT 2
- 10 ACRE SURVEY PLOT LOCATIONS
- SOIL TYPE BOUNDARY AND NUMBER

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, 1986

SOIL TYPE NUMBER

SOIL TYPE NUMBER	SERIES
27	DEMAN
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29	DEMAN
30	DEMAN
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33	DEMAN
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200	DEMAN



1" = 1000'

0 50' 100'

CONTOUR INTERVAL = 20'

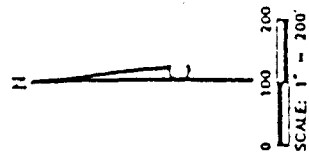
U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

OPERATION UNIT NO. 2

PHASE B RPT/RI WORK PLAN (ALUMINUM)

PROPOSED SURFICIAL SOIL SAMPLING
PLOT IDENTIFICATION NUMBERS

Figure 2



EXPLANATION

- INDIVIDUAL HAZARDOUS SUBSTANCE SITE
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING ALLUVAL GRAVIMETER MONITORING WELL
- PRE-1986 MONITORING WELL
- INTERMITTENT STREAM
- DIRT ROAD
- ROCKY FLATS BLDG. NO. [124]
- PRELIMINARY EXTENSION OF THE LAYOUT BASED ON A SITE RECONNAISSANCE
- PROPOSED WELL LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED SOIL GAS SAMPLES
- ALL PROPOSED LOCATIONS ARE APPROXIMATE

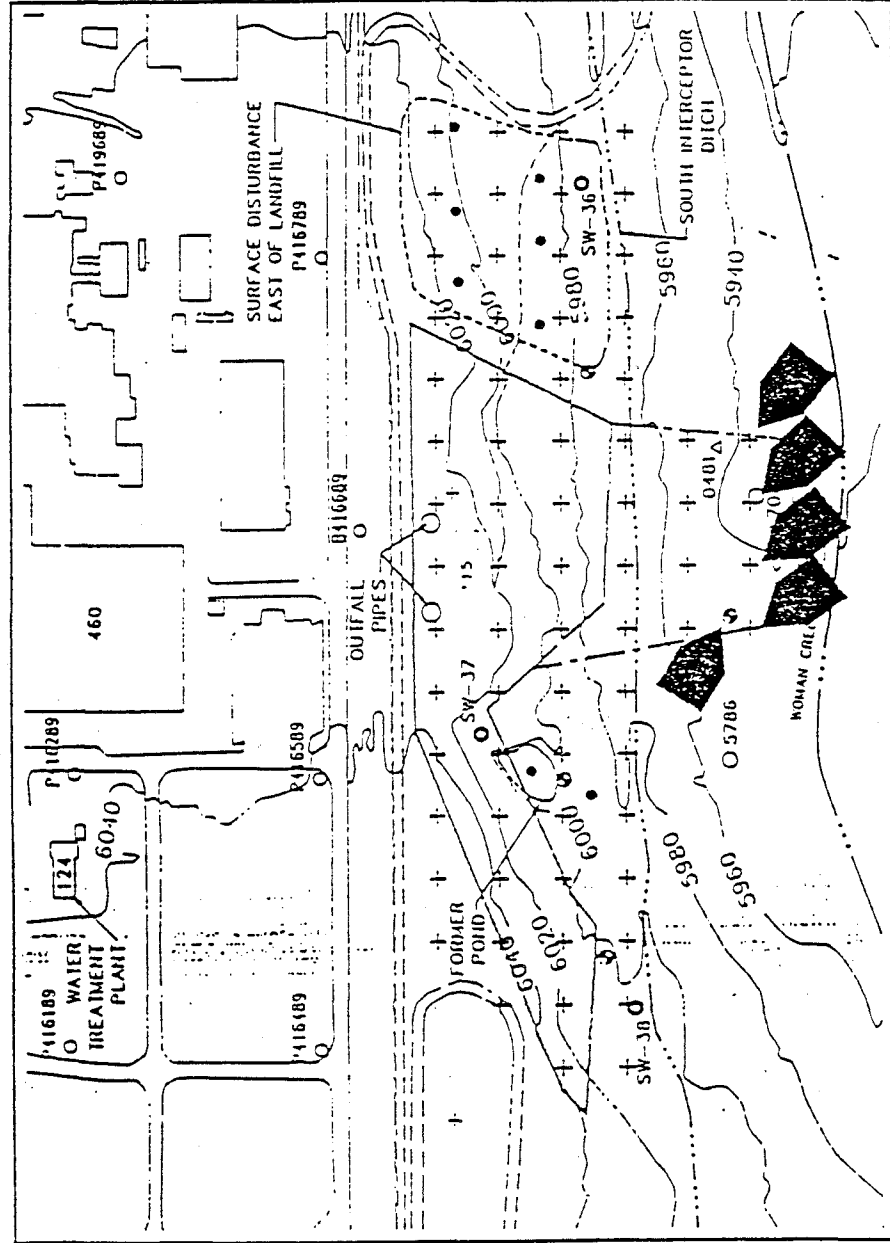
U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 3
PHASE 1 RI/RI WORK PLAN

PROPOSED SAMPLING AND
WELL LOCATIONS
HUSS 115
ORIGINAL LAIDFILL

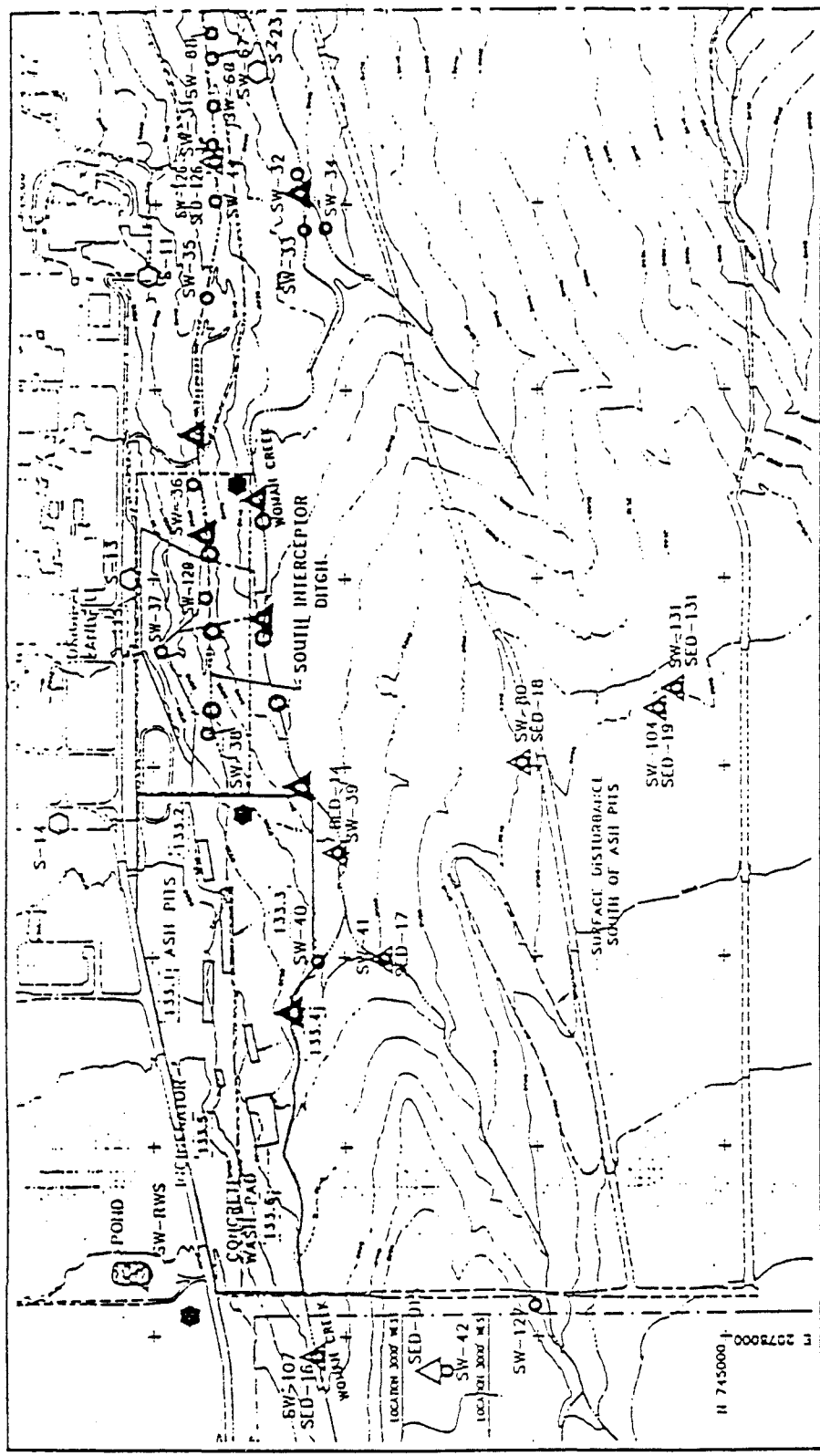
Figure 3

REV. AUGUST 1991
MARCH 1991



25000091

6/17



(SEE FIGURE 7-2 (2 OF 2))
MATCHLINE

SCALE: 1" = 800'

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

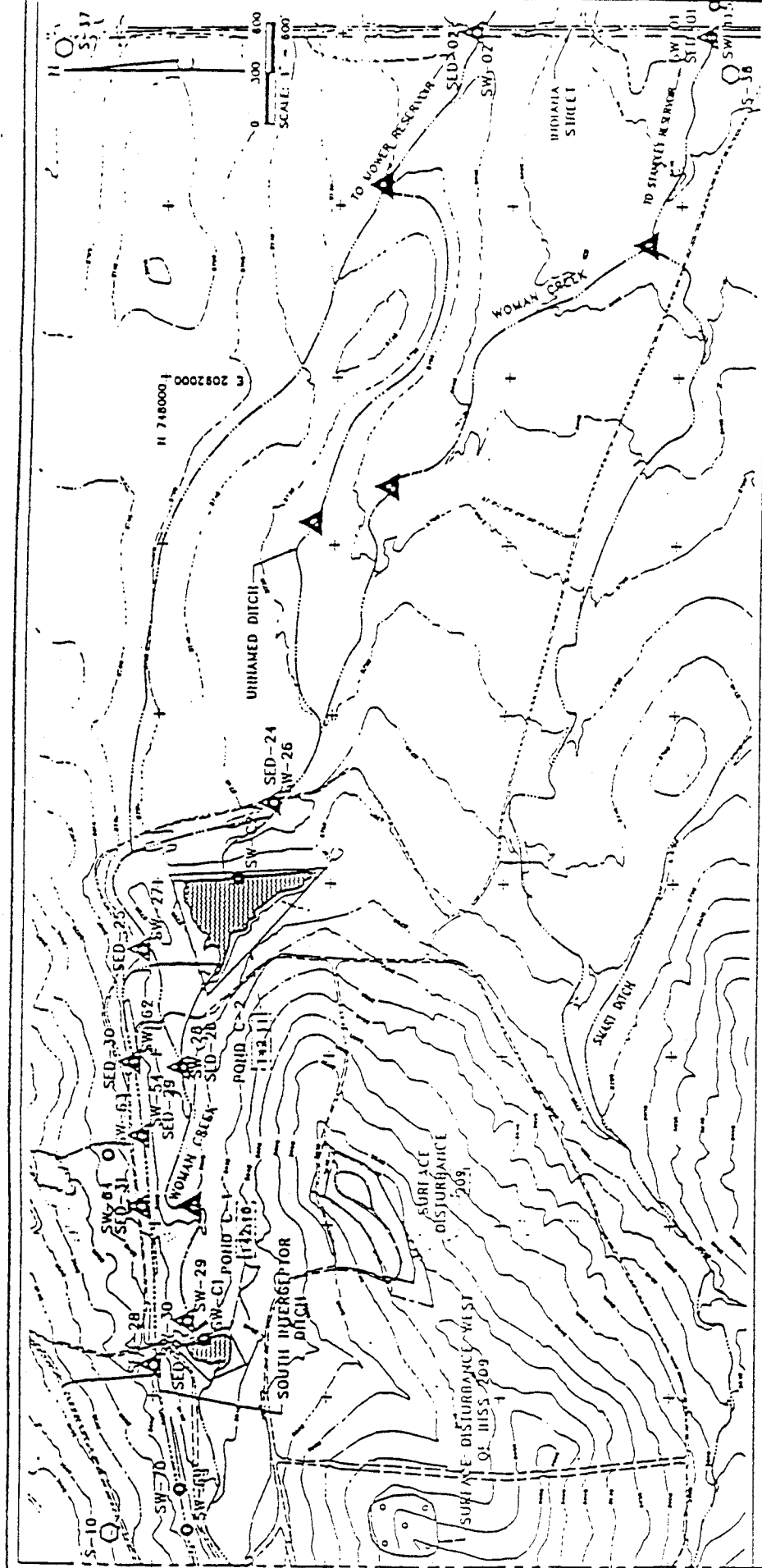
OFFRABLE UNIT 5
PHASE I RI/RI WORK PLAN

SEDIMENT & SURFACE WATER
SAMPLING SITES & AIR MONITORING
STATIONS ALONG WOMAH CREEK AND
THE SOUTH INTERCEPTOR DITCH

Figure 4

REV. AUGUST 1991
MARCH 1991

EXPLANATION	
▲	PROPOSED SEDIMENT SAMPLE LOCATION
●	PROPOSED RADIOACTIVE AMBIENT AIR MONITORING PROGRAM LOCATION
○	PROPOSED SURFACE WATER LOCATION
—	PROPOSED CERAMIC SURVEY FOR ASH PIT AREA
---	1990 CERAMIC SURVEY BOUNDARY AROUND OLD LAUNCH
▲	INDIVIDUAL HAZARDOUS SUBSTANCE SITE
SW-10	EXISTING SURFACE WATER LOCATION
SED-1	EXISTING SEDIMENT SAMPLING LOCATION
---	INTERMITTENT STREAM
---	DIRT ROAD
---	PRELIMINARY EXTENSION OF THE SURFACE DISTURBANCE BASED ON A RECONNAISSANCE
SW-2	EXISTING RADIOACTIVE AMBIENT AIR MONITORING PROGRAM LOCATION



U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 3
PHASE 1 RI/RI WORK PLAN

**SEDIMENT & SURFACE WATER
SAMPLING SITES & AIR MONITORING
STATIONS ALONG WOMAN CREEK AND
THE SOUTH INTERCEPTOR DITCH**

REV. AUGUST 1991
MARCH 1991

Figure 5

**EXISTING RADIOACTIVE AIRBORNE AIR
MONITORING PROGRAM LOCATION**

**PROPOSED SEDIMENT
SAMPLE LOCATION**

EXPLANATION

INDIVIDUAL HAZARDOUS SUBSTANCE SITE S-23

EXISTING SURFACE WATER LOCATION

EXISTING SEDIMENT SAMPLING LOCATION

INTERMITTENT STREAM

RAILROAD

PERMANENT EXISTENCE OF THE SURFACE
DISTURBANCE BASED ON A RECONNAISSANCE

ORIGINAL STREAM CHANNEL HEAR
FIELD C-2

SW-10

SW-11

SW-12

SW-13

SW-14

SW-15

SW-16

SW-17

SW-18

SW-19

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SW-91

SW-92

SW-93

SW-94

SW-95

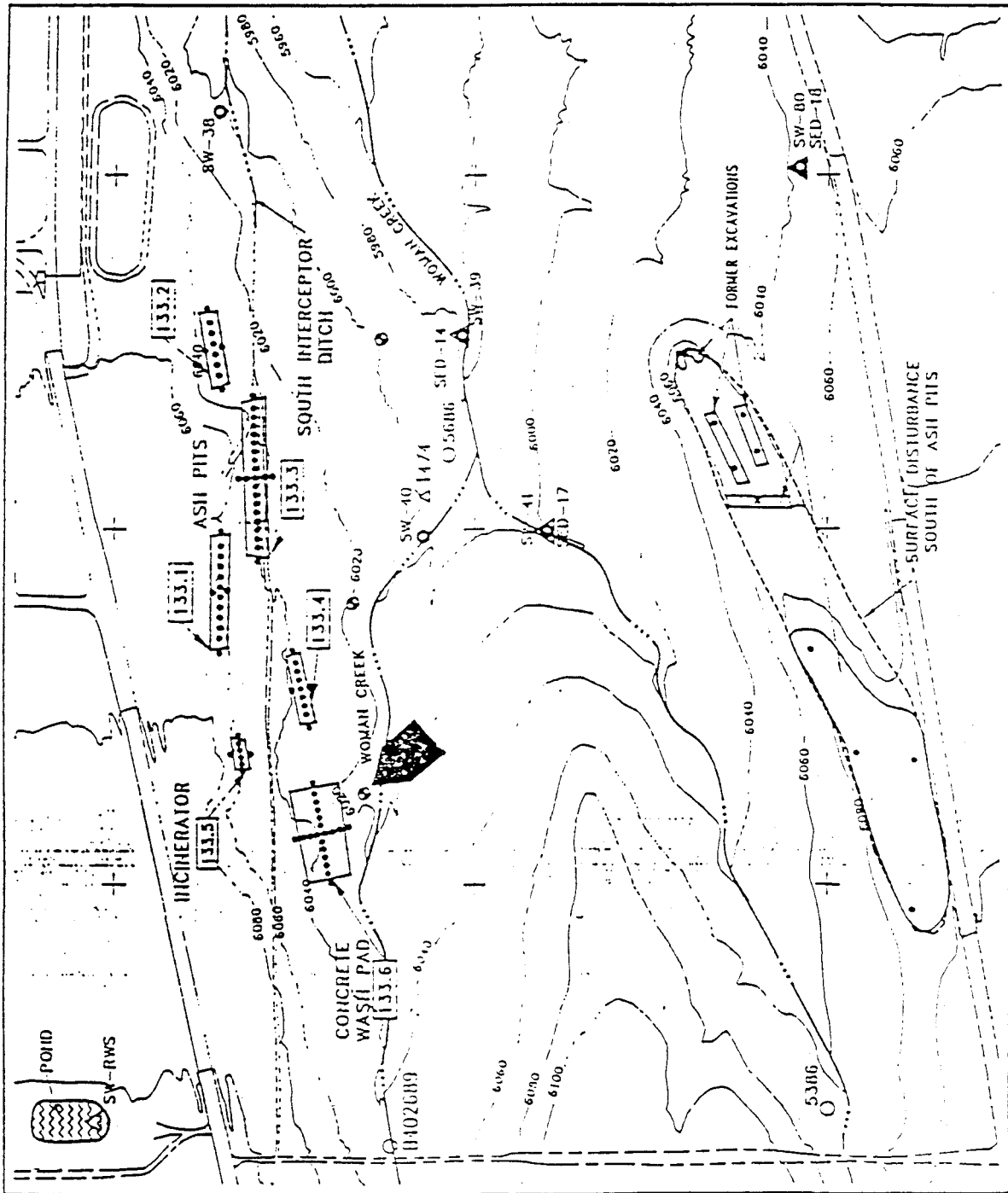
SW-96

SW-97

SW-98

SW-99

SW-100



EXPLANATION

- INDIVIDUAL HAZARDOUS SUBSTANCE SITE
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING ALLUVIAL GROUNDWATER MONITORING WELL
- EXISTING SEDIMENT SAMPLING LOCATION
- PRE-1986 MONITORING WELL
- PROPOSED SURF BORING LOCATION
- PROPOSED WELL LOCATION
- PROPOSED SURFACE SAMPLING LOCATION

----- INTERMITTENT STREAM
 : : : : : DIRT ROAD

* ALL PROPOSED LOCATIONS ARE APPROXIMATE

U.S. DEPARTMENT OF ENERGY
 Rocky Flats Plant, Golden, Colorado

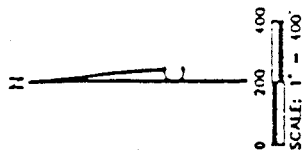
OPERABLE UNIT 5
 PHASE 1 REL/RI WORK PLAN

PROPOSED SAMPLING & WELL LOCATIONS,
 ASH PITS 1-4, INCINERATOR,
 CONCRETE WASH PAD (HSS 133.1-6),
 AND ADDITIONAL SURFACE DISTURBANCE

Figure 6

REV. AUGUST 1991
 MARCH 1991

9/17



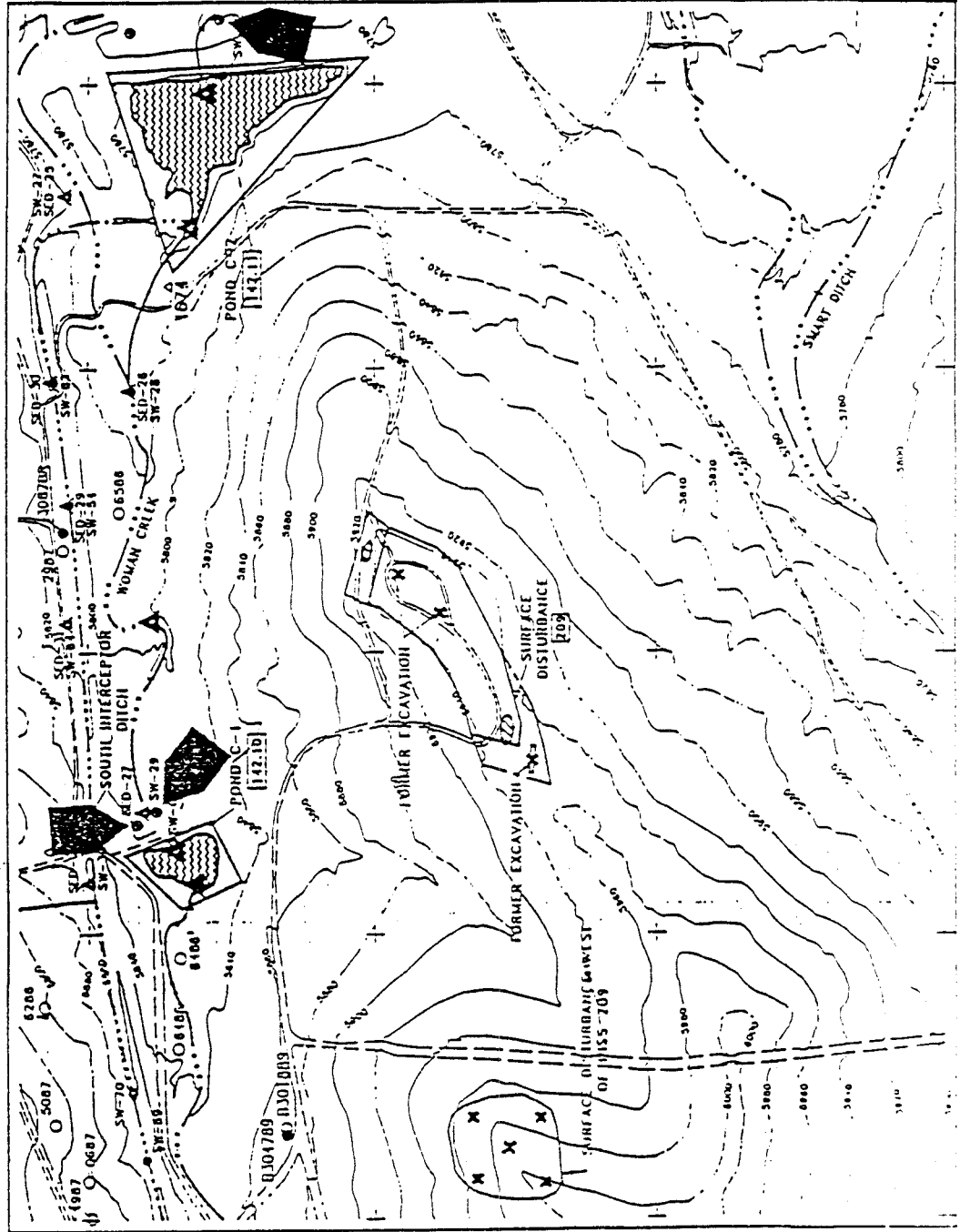
EXPLANATION

- (11) PERMANENT HAZARDOUS SUBSTANCE SITE
- SW-10 EXISTING SURFACE WATER SAMPLING LOCATION
- 5788 EXISTING ALIQUOT COLLECTION MONITORING WELL
- SED-17 EXISTING STRAIGHT SAMPLING LOCATION
- 3087 EXISTING IMPROVE COLLECTION MONITORING WELL
- POCULIDE DRAINAGE SLOPE
- INTERMITTENT STREAM
- DIRT ROAD
- PRELIMINARY EXTENSION OF THE SURFACE DISTURBANCE BASED ON A 3% INCLINATION
- USUAL SPRING DRAINAGE FROM POND C-1
- X PROPOSED SURFACE SAMPLING LOCATION
- PROPOSED WELL LOCATION
- △ PROPOSED STRAIGHT SAMPLING LOCATION

* 3 OTHER LOCATIONS IN EACH POND WILL BE SELECTED AT RANDOM
 * ALL PROPOSED LOCATIONS ARE APPROPRIATE

U.S. DEPARTMENT OF ENERGY
 Rocky Flats Plant, Golden, Colorado
 OPERABLE UNIT 5
 PHASE 1 RI/RI WORK PLAN

PROPOSED SAMPLING & WELL LOCATIONS
 HISS 142.10-11, POND C-1 & C-2,
 HISS 209 SURFACE DISTURBANCE, & THE
 SURFACE DISTURBANCE WEST OF
 HISS 209



DRAFT

FOR COMMENTS AND
DISCUSSION ONLY

SCALE: 1" = 200'

EXPLANATION

EXISTING

SW-1

5786

SED-17

3087

INDIVIDUAL HAZARDOUS SUBSTANCE SITE

EXISTING SURFACE WATER SAMPLING LOCATION

EXISTING ALLUVIAL GROUNDWATER MONITORING

EXISTING SEDIMENT SAMPLING LOCATION

EXISTING BEDROCK GROUNDWATER MONITORING

DIRT ROAD

INTERMITTENT STREAM

ROCKY FLATS BLDG NO

PROPOSED SOLID GAS DRIFT LOCATION

PROPOSED WELL LOCATION

PROPOSED SURFACE SAMPLING LOCATION

PROPOSED BORING AND SURFACE SAMPLING LOCATION

ALL PROPOSED LOCATIONS ARE APPROXIMATE

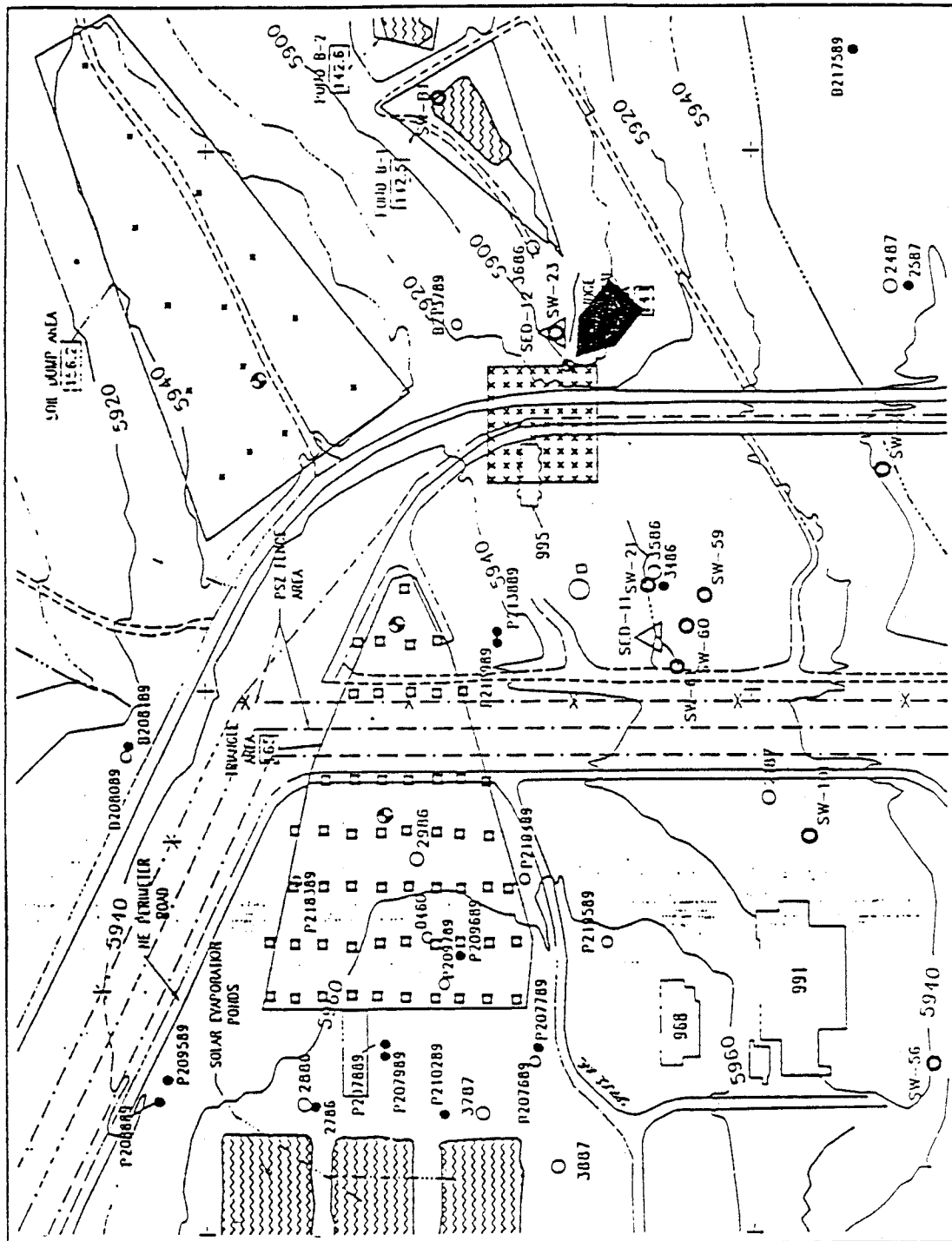
U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

PHASE 1 REI/RI WORK PLAN

PROPOSED SAMPLING AND
WELL LOCATIONS
HSS 141 SLUDGE DISPERSAL
HSS 165 TRIANGLE AREA
HSS 156.2 SOIL DUMP AREA

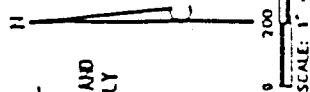
Figure 8

APRIL 1



DRAFT

FOR COMMENTS AND
DISCUSSION ONLY



EXPLANATION

- INDIVIDUAL HAZARDOUS SUBSTANCE SITE
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING ALLUVIAL GROUNDWATER MONITORING WELL
- EXISTING SEDIMENT SAMPLING LOCATION
- EXISTING BEDROCK GROUNDWATER MONITORING WELL
- EXISTING PRE-1986 WELL
- INTERMITTENT STREAM
- DIRT ROAD
- PROPOSED WELL LOCATION¹
- PROPOSED SEDIMENT SAMPLE LOCATION¹
- PROPOSED BEDROCK WELL LOCATIONS FOR SITE-WIDE GEOLOGICAL CHARACTERIZATION PROGRAM¹ These wells are shown in figure 11.

¹ ALL PROPOSED LOCATIONS ARE APPROXIMATE

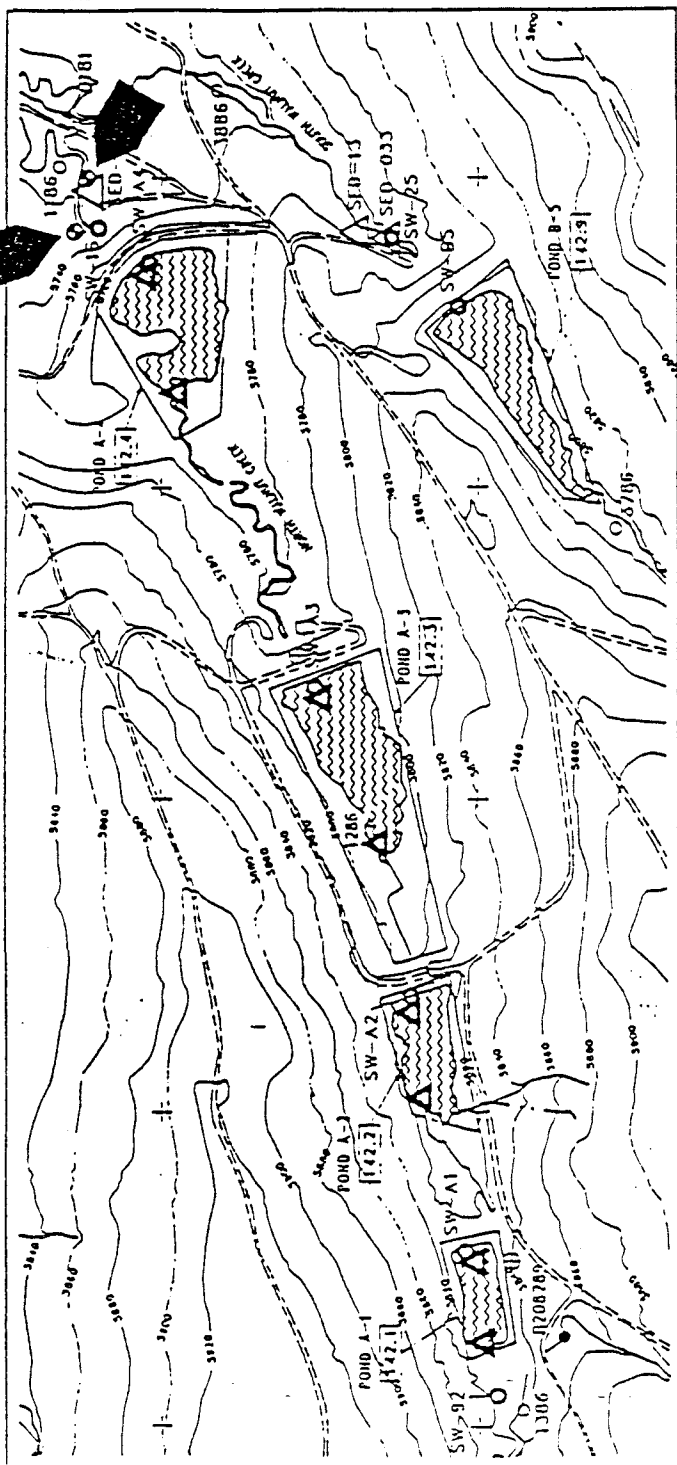
U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 6

PHASE 1 RI/RI WORK PLAN

PROPOSED SAMPLING & WELL LOCATIONS
IHSS 142.1-4
A-SERIES DETENTION PONDS
ALONG NORTH WALNUT CREEK

Figure 9 APRIL 1991



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0 150 300
SCALE: 1" = 300'

EXPLANATION

- INDIVIDUAL HAZARDOUS SUBSTANCE SITE
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING ALLUVIAL GROUNDWATER MONITORING WELL
- EXISTING SEDIMENT SAMPLING LOCATION
- WATERBENT STREAM
- DIRT ROAD
- ROCKY FLATS BLDG. NO. 116
- PROPOSED WELL LOCATION¹
- PROPOSED BORING AND SURFACE SAMPLE¹ LOCATION
- PROPOSED SEDIMENT SAMPLE LOCATION^{1,2}
- PROPOSED BEDROCK WELL LOCATIONS FOR SITE-WIDE GEOLOGICAL CHARACTERIZATION PROGRAM¹

¹ ALL PROPOSED LOCATIONS ARE APPROXIMATE
² THREE OTHER LOCATIONS IN EACH POND WILL BE SELECTED AT RANDOM

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 6
PHASE I RFI/RI WORK PLAN

PROPOSED SAMPLING & WELL LOCATIONS
HSS 142.5-9,
B-SERIES DETENTION PONDS
ALONG SOUTH WALNUT CREEK
HSS 216.1 EAST AREA SPRAY FIELD

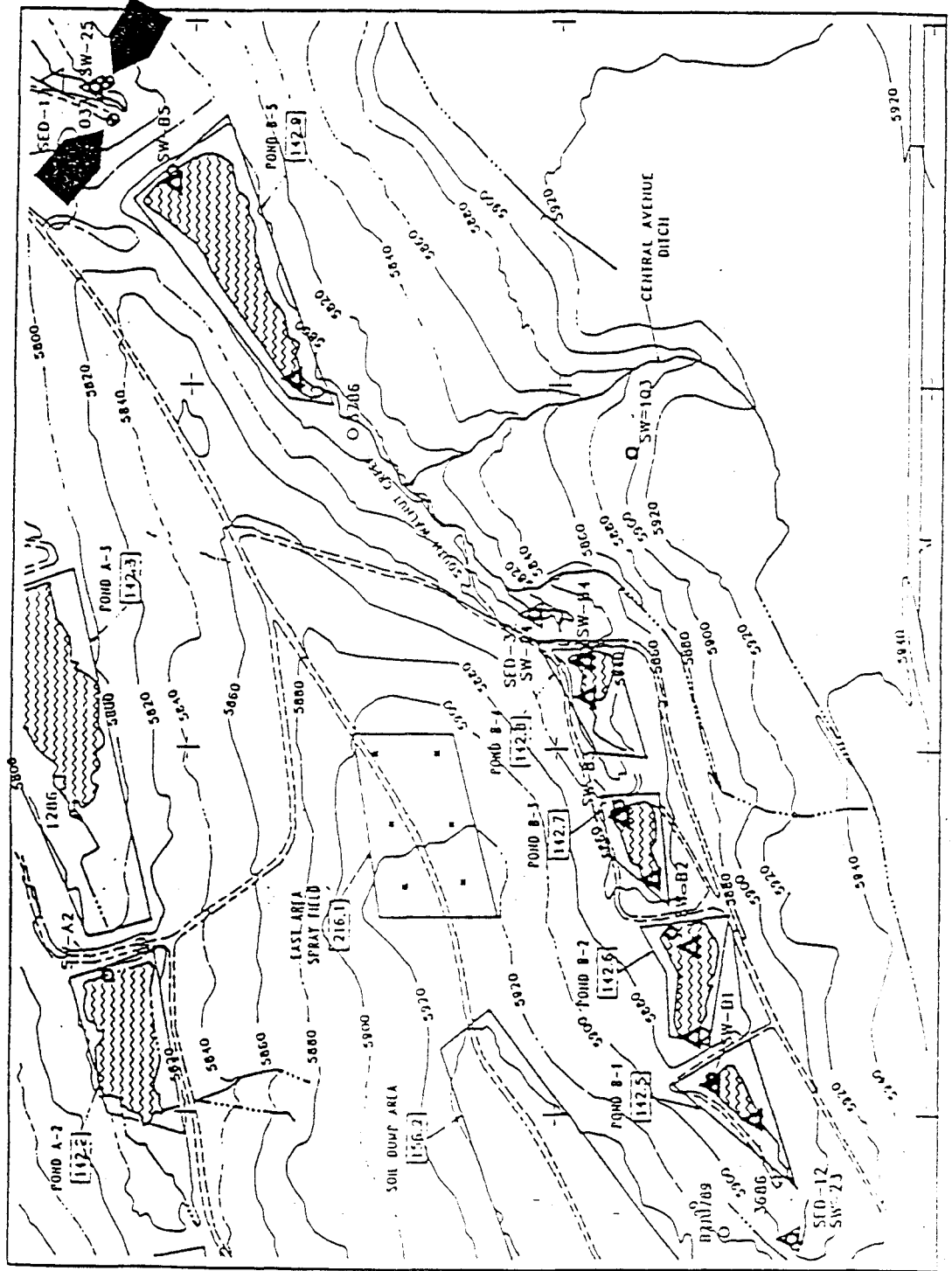
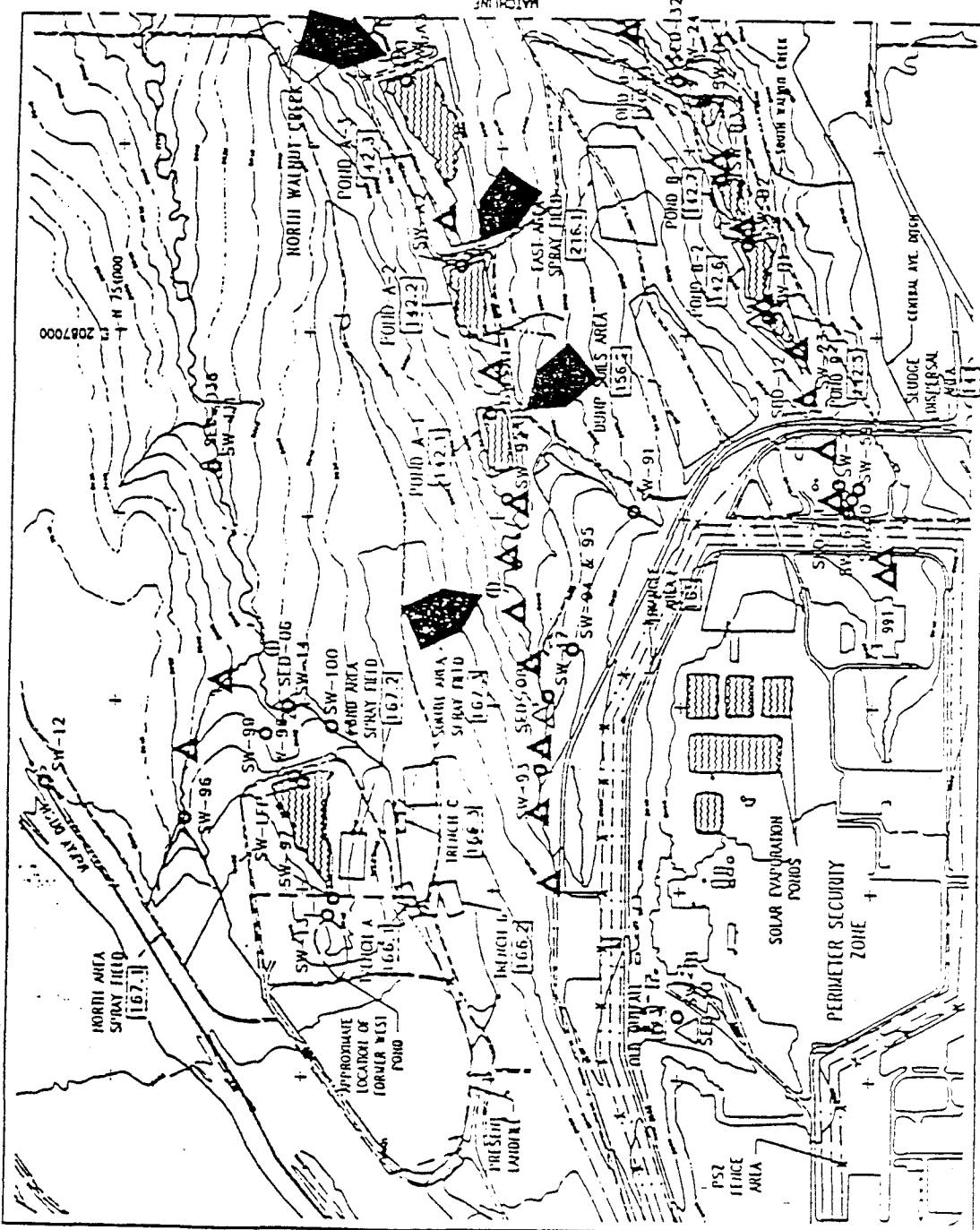


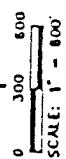
Figure 10

APRIL 1991

13/17



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DISCUSSION ONLY



EXPLANATION

- INDIVIDUAL HAZARDOUS SUBSTANCE SITE (HSS) IN OPERABLE UNIT 6
- HSS REFERENCE NUMBER
- EXISTING SURFACE WATER SAMPLING LOCATION
- EXISTING SEDIMENT SAMPLING LOCATION
- PERIMETER SECURITY ZONE
- DIRT ROAD
- PROPOSED LOCATIONS FOR SEDIMENT SAMPLES
- PROPOSED BEDROCK WELL LOCATIONS FOR SITE-WIDE GEOLOGICAL CHARACTERIZATION PROGRAM¹

¹ ALL PROPOSED LOCATIONS ARE APPROXIMATE

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PHASE I RI/RI WORK PLAN

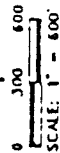
OPERABLE UNIT 6

SEDIMENT SAMPLING SITES AND
SITE-WIDE PROGRAM BEDROCK WELLS
ON NORTH AND SOUTH
WALNUT CREEKS

1412

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EXPLANATION



INDIVIDUAL HAZARDOUS SUBSTANCE SITE
(HSS) IN OPERABLE UNIT 6



HSS REFERENCE MARKER



EXISTING SURFACE WATER SAMPLING LOCATION



EXISTING SEDIMENT SAMPLE LOCATION



DIRT ROAD



PROPOSED LOCATIONS FOR SEDIMENT SAMPLES

ALL PROPOSED LOCATIONS ARE APPROXIMATE

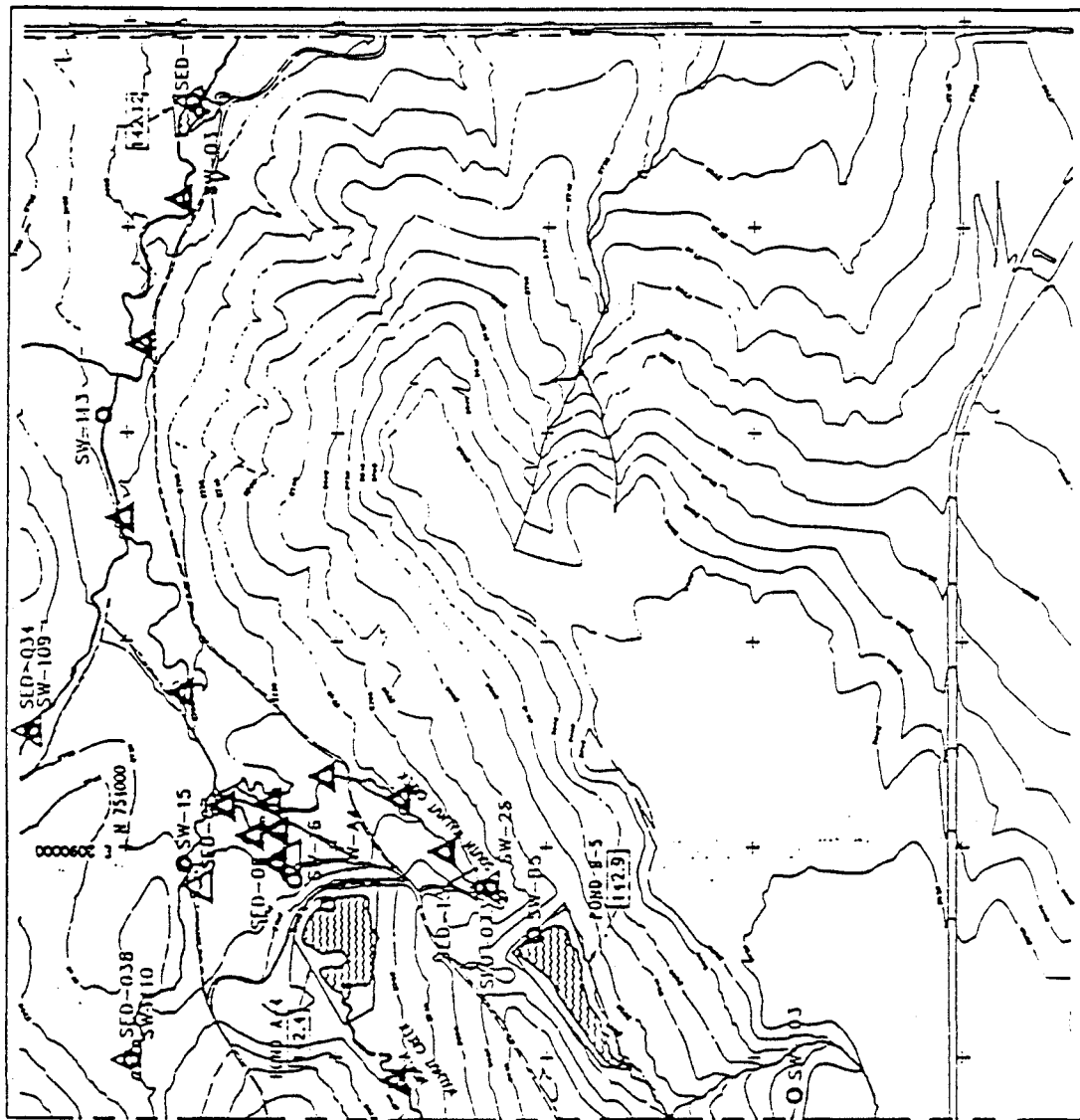
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Rocky Flats Plant, Golden, Colorado

OPERABLE UNIT 6
PHASE 1 RI/RI WORK PLAN

SEDIMENT SAMPLING SITES AND
SITE-WIDE PROGRAM BEDROCK WELLS
ON NORTH AND SOUTH
WALNUT CREEKS

Figure 12

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MATCHLINE
(SEE FIGURE 7-4 [2 OF 2])

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0 150 300
SCALE: 1" = 300'

EXPLANATION

[115]

SW-1

5786

SED-17

3087

INTERMITTENT STREAM

DIRT ROAD

PROPOSED SOIL BORING LOCATION

PROPOSED WELL LOCATION

PROPOSED BORING AND SURFACE SAMPLE LOCATION

PROPOSED ELECTROMAGNETIC SURVEY LINE LOCATION

INDIVIDUAL HAZARDOUS SUBSTANCE SITE

EXISTING SURFACE WATER SAMPLING LOCATION

EXISTING ALLUVIAL GROUNDWATER MONITORING

EXISTING SEDIMENT SAMPLING LOCATION

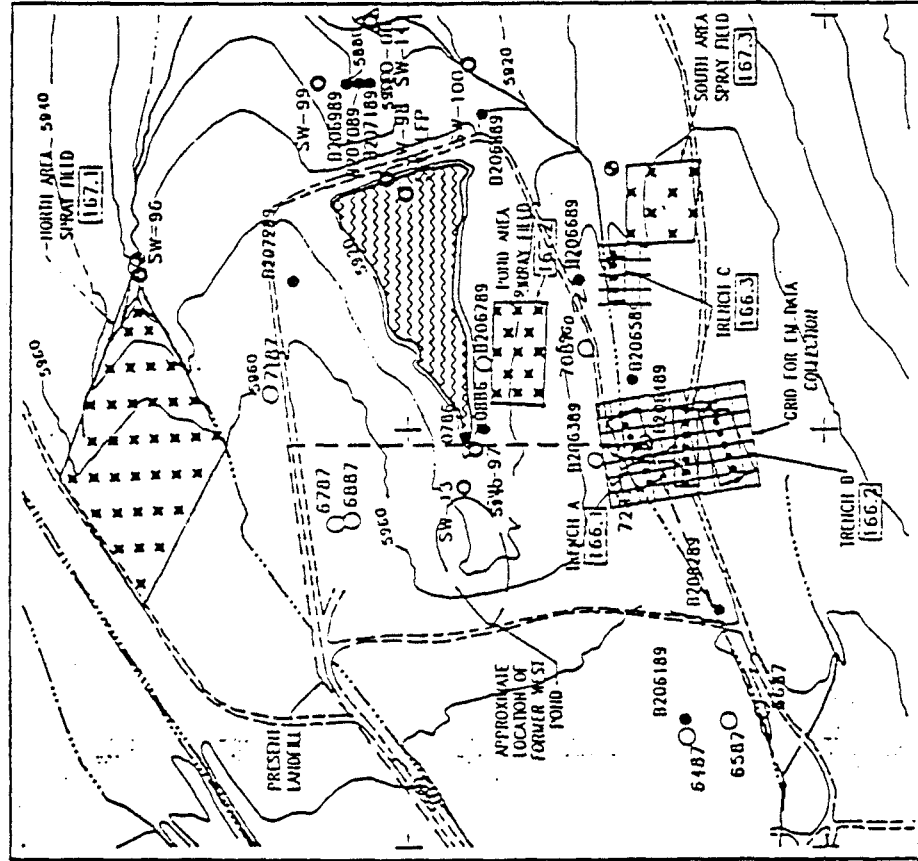
EXISTING BEDROCK GROUNDWATER MONITORING

ALL PROPOSED LOCATIONS ARE APPROPRIATE

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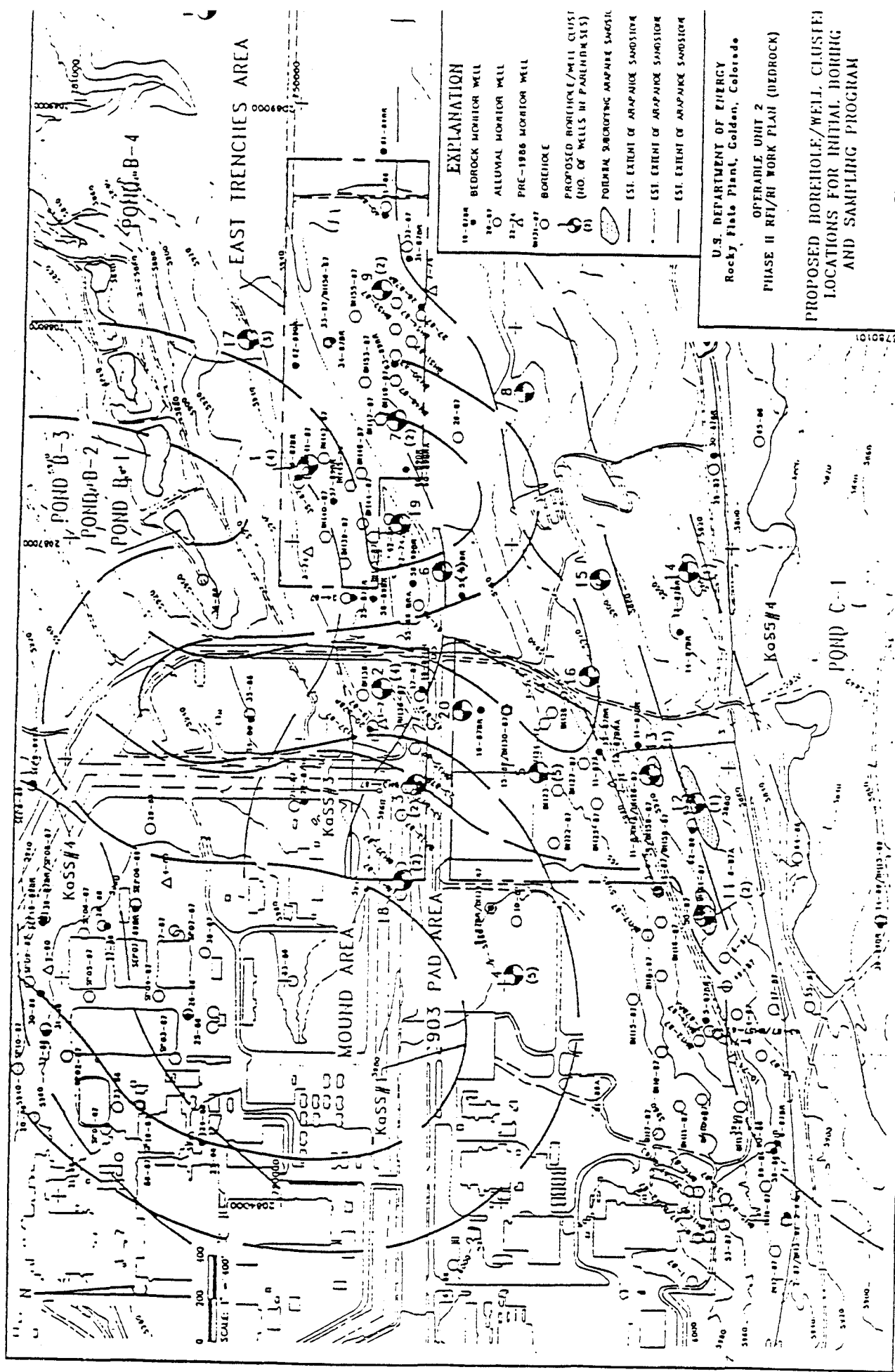
OPERABLE UNIT &
PHASE 1 RI/RI WORK PLAN

PROPOSED SAMPLING & WELL LOCATIONS
HSSs 166.1-3, TRENCHES A, B, &
HSSs 167.1-3 NORTH AREA,
POND AREA AND SOUTH AREA



Preliminary information from the U. S. Army Corps of Engineers shows no flood plain for the drainageways on this map.

16/17



EXPLANATION

11-0784	BEDROCK MONITOR WELL
10-07	ALLUVIAL MONITOR WELL
11-07	PRE-1986 MONITOR WELL
11-07	BOREHOLE
11-07	PROPOSED BOREHOLE/WELL CLUST (NO. OF WELLS IN PARENTHESIS)
11-07	POTENTIAL SUBSIDING ANTHRAPORE SANDSTONE
11-07	EST. EXTENT OF ANTHRAPORE SANDSTONE
11-07	EST. EXTENT OF ANTHRAPORE SANDSTONE
11-07	EST. EXTENT OF ANTHRAPORE SANDSTONE

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OPERABLE UNIT 2
PHASE II REF/RI WORK PLAN (BEDROCK)

PROPOSED BOREHOLE/WELL CLUSTED
LOCATIONS FOR INITIAL BORING
AND SAMPLING PROGRAM